AMENDMENTS TO THE CLAIMS

This listing of claims will replace all other versions, and listings, of claims in the present application.

Listing of Claims:

1. (Previously Presented) A method of reducing resist residue defects in a semiconductor manufacturing process, comprising:

performing a special vapor prime operation to a semiconductor substrate structure, wherein the special vapor prime operation comprises using ~~an~~ a hexamethyldisilizane priming agent and is performed at a temperature between about 85 degrees C and 130 degrees C for a period of between about 5 seconds and about 20 seconds;

applying a photoresist coat to the semiconductor substrate structure;

selectively exposing a first portion of the photoresist coat using an exposure source and a photomask, wherein a second portion of the photoresist is unexposed;

performing a special development operation on the first portion of the photoresist using a developer and maintaining an exhaust air velocity from about 5 meters per second or more to about 6 meters per second or less;

removing the developed first portion of the photoresist from the structure; and

removing resist residues from the structure in order to reduce resist residue defects.

2-6. (Cancelled)

7. (Previously Presented) The method of claim 1, wherein performing the special development operation comprises:

dispensing developer onto the semiconductor substrate structure;

rinsing front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a medium speed for a first time period;

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rinsing the front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a low speed for a second time period;

rinsing the front side of the semiconductor substrate structure for a third time period; and

drying the semiconductor substrate structure while spinning the semiconductor substrate structure at a high speed.

8. (Previously Presented) The method of claim 7, wherein rinsing front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a medium speed for a first time period comprises rinsing front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a speed of about 1000 RPM for a first time period of about 40 seconds.

9. (Original) The method of claim 7, wherein rinsing the front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a low speed for a second time period comprises rinsing the front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a speed of about 600 RPM for a second time period of about 8 seconds.

10. (Original) The method of claim 7, wherein rinsing the front side of the semiconductor substrate structure for a third time period comprises rinsing the front side of the semiconductor substrate structure for a third time period of about 5 seconds.

11. (Previously Presented) The method of claim 7, wherein drying the semiconductor substrate structure while spinning the semiconductor substrate structure at a high speed comprises drying the semiconductor substrate structure while spinning the semiconductor substrate structure at a low acceleration of about 1000 RPM per second from rest to a speed of about 4500 RPM.

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12. (Previously Presented) The method of claim 11, wherein rinsing front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a medium speed for a first time period comprises rinsing front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a speed of about 1000 RPM for a first time period of about 40 seconds, wherein rinsing the front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a low speed for a second time period comprises rinsing the front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a speed of about 600 RPM for a second time period of about 8 seconds, and wherein rinsing the front side of the semiconductor substrate structure for a third time period comprises rinsing the front side of the semiconductor substrate structure for a third time period of about 5 seconds.

13. (Original) The method of claim 1, wherein performing the special development operation comprises:

dispensing developer onto the semiconductor substrate structure;

rinsing front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a medium speed for a first time period;

rinsing the front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a low speed for a second time period;

rinsing the front side of the semiconductor substrate structure for a third time period; and

drying the semiconductor substrate structure while spinning the semiconductor substrate structure at a high speed.

14. (Previously Presented) The method of claim 13, wherein rinsing front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a medium speed for a first time period comprises rinsing front and back sides of the semiconductor substrate structure while spinning the semiconductor

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substrate structure at a speed of about 1000 RPM for a first time period of about 40 seconds.

15. (Original) The method of claim 13, wherein rinsing the front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a low speed for a second time period comprises rinsing the front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a speed of about 600 RPM for a second time period of about 8 seconds.

16. (Original) The method of claim 13, wherein rinsing the front side of the semiconductor substrate structure for a third time period comprises rinsing the front side of the semiconductor substrate structure for a third time period of about 5 seconds.

17. (Previously Presented) The method of claim 13, wherein drying the semiconductor substrate structure while spinning the semiconductor substrate structure at a high speed comprises drying the semiconductor substrate structure while spinning the semiconductor substrate structure at a low acceleration of about 1000 RPM per second from rest to a speed of about 4500 RPM.

18. (Previously Presented) The method of claim 17, wherein rinsing front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a medium speed for a first time period comprises rinsing front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a speed of about 1000 RPM for a first time period of about 40 seconds, wherein rinsing the front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a low speed for a second time period comprises rinsing the front and back sides of the semiconductor substrate structure while spinning the semiconductor substrate structure at a speed of about 600 RPM for a second time period of about 8 seconds, and wherein rinsing the front side of the

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semiconductor substrate structure for a third time period comprises rinsing the front side of the semiconductor substrate structure for a third time period of about 5 seconds.

19-21. (Cancelled)

22. (Previously Presented) A vapor prime operation for a semiconductor manufacturing process, comprising:

priming a semiconductor structure using a hexamethyldisilizane priming agent at a temperature from about 85 degrees C or more to about 130 degrees C or less for a time period from about 5 seconds or more to about 20 seconds or less;

applying a photoresist coat to the semiconductor substrate structure;

selectively exposing a first portion of the photoresist coat using an exposure source and a photomask, wherein a second portion of the photoresist is unexposed; and

performing a special development operation on the first portion of the photoresist using a developer and maintaining an exhaust air velocity from about 5 meters per second or more to about 6 meters per second or less.

23. (Cancelled)

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